Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

75. Proposed by J. A. CALDERHEAD, M. Sc., Professor of Mathematics in Curry University, Pittsburg, Pennsylvania.

If 24 men, in 15 days of 12 hours each, dig a trench 300 yards long, 5 yards wide, 6 feet deep for 540 five-cent loaves when flour is $8 a barrel; what is flour worth a barrel when 45 men, working $5\frac{1}{3}$ days of ten hours each, dig a trench 125 yards long, 5 yards wide, 8 feet deep for 320 four-cent loaves ? *Solve by proportion.*

Solution by G. B. M. ZERR, A. M., Ph. D., Tsxarkana, Arkansas, and C. A. JONES, Terrence, Miss.

The price of flour is an inverse ratio, hence using the *cause* and *effect* process we get at once

$$\left\{\begin{matrix}24\\15\\12\\540\\5\end{matrix}\right\}:\left\{\begin{matrix}300\\5\\6\\(?)\end{matrix}\right\}::\left\{\begin{matrix}45\\5\frac{1}{3}\\10\\320\\4\end{matrix}\right\}:\left\{\begin{matrix}125\\5\\8\\8\end{matrix}\right\}$$

$$\therefore\ (?)=\frac{24\times15\times12\times540\times5\times125\times5\times8\times8\times3}{300\times5\times6\times45\times16\times10\times320\times4}=16\tfrac{7}{8}.$$

$\therefore$ Flour is worth \$16.87½ per barrel.

76. Proposed by E. W. MORRELL, Professor of Mathematics in Montpelier Seminary, Montpelier, Vermont.

An eastern nobleman willed his entire estate to his three sons on the condition that the oldest should have one-half, the next one-third, and the youngest one-ninth. His estate, on inventory, was found to consist of 17 elephants. What should be the share of each ?

Solution by FREDERIC R. HONEY, Ph. B., New Haven, Connecticut, and CHAS. C. CROSS, Laytonsville, Maryland.

If the will was obeyed literally the eldest son's share was $\frac{17}{2}$ elephants ; the second son's $\frac{17}{3}$; and the youngest's $\frac{17}{9}$, making a total of $\frac{17}{2}+\frac{17}{3}+\frac{17}{9}=16\frac{1}{18}$ elephants. This would leave $\frac{17}{18}$ of an elephant.

The following solution would be satisfactory :

We have $\frac{1}{2}+\frac{1}{3}+\frac{1}{9}=\frac{17}{18}$ as the denominator.

First son receives $\dfrac{\frac{1}{2}}{\frac{17}{18}}=\frac{1}{2}\times\frac{18}{17}=\frac{9}{17}$.

Second son receives $\dfrac{\frac{1}{3}}{\frac{17}{18}}=\frac{1}{3}\times\frac{18}{17}=\frac{6}{17}$.

Third son receives $\dfrac{\frac{1}{9}}{\frac{17}{18}}=\frac{1}{9}\times\frac{18}{17}=\frac{2}{17}$.

Since the estate consisted of 17 elephants, $\therefore$ the first son got $\frac{9}{17}$ of $17=9$ elephants; and the second son got $\frac{6}{17}$ of $17=6$ elephants; and the third son got $\frac{2}{17}$ of $17=2$ elephants.

Remarks by G. B. M. ZERR, A. M., Ph. D., Texarkana, Arkansas.

As 17 is prime, the elephants should be divided as near the proportion as possible. $\therefore$ oldest should have 9, next, 6, and the youngest, 2.